IT-B2

SERVICE MANUAL

Mexican Model

SPECIFICATIONS

Dial signal	Tone, 10 PPS (pulse) selectable
Dimensions	Approx. 152 × 71 × 216 mm (w/h/d) (Approx. 6 × 2 7/8 × 8 5/8 inches)
Mass	Approx. 560 g (Approx. 1 lb 4 oz)
Supplied accessories	Telephone line cords (2) Wall bracket (1) Screws (2) (attached inside the wall bracket) Directory label (1 sheet)

Design and specifications are subject to change without notice.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

TELEPHONE

MICROFILM

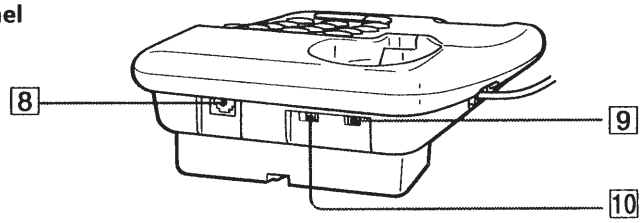
SONY®

This section is extracted from instruction manual.

Identifying the parts

1 **Handset**
2 **PROGRAM button**
3 **SPEED DIAL button**
Accesses speed dialing numbers.
4 **Dialing keys**
5 **TONE ⊛ button**
Temporarily switches the dialing mode from pulse to tone.
6 **REDIAL/PAUSE button**
Redials the last number called. Also inserts a pause in the dialing sequence.
7 **TEMPORARY button**

Rear panel

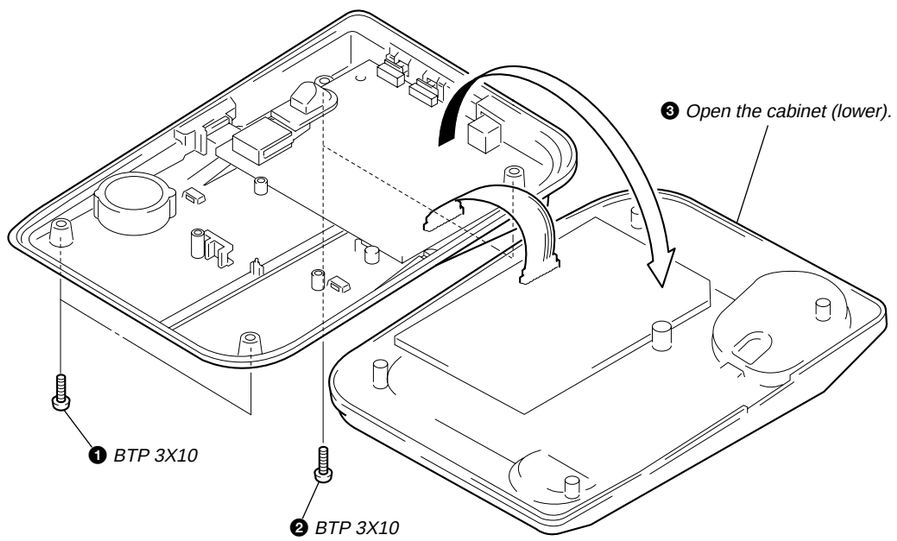


8 **LINE jack**
9 **DIAL MODE switch (P/T)**
10 **RINGER LEVEL switch (OFF/L/H)**
Adjusts the volume of the telephone ring.

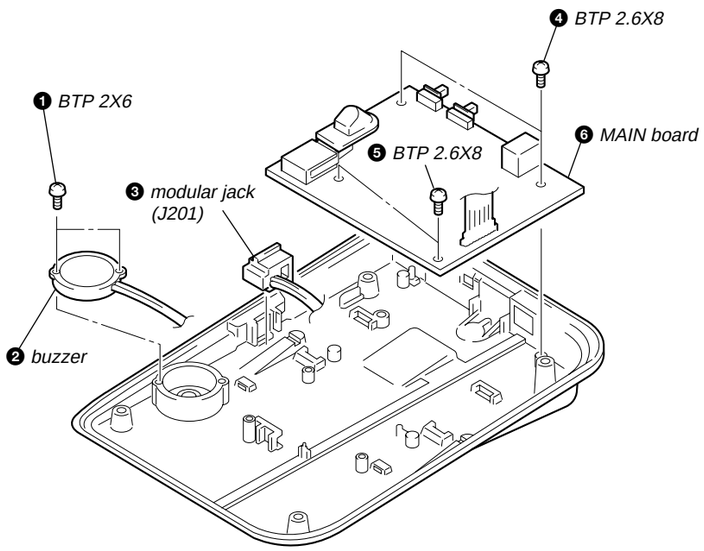
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

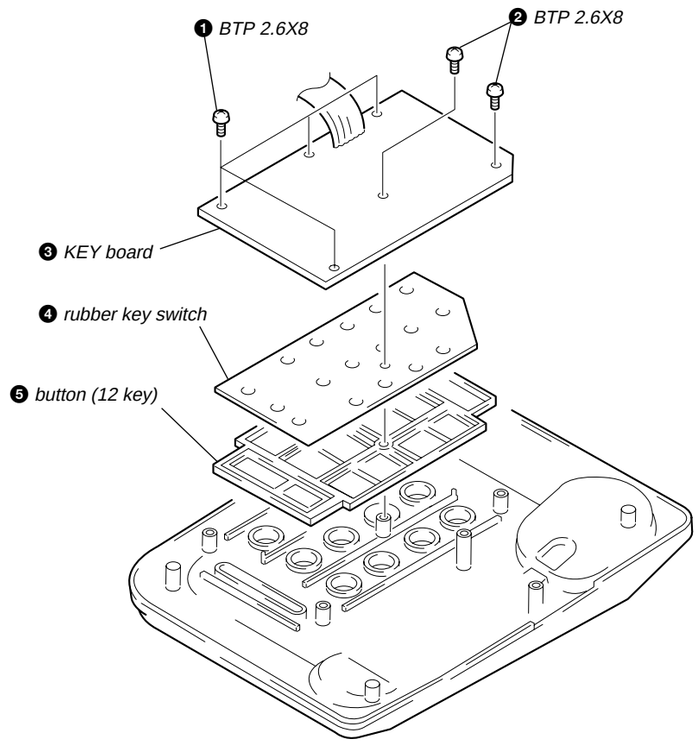
2-1. CABINET (LOWER)



2-2. MAIN BOARD



2-3. KEY BOARD

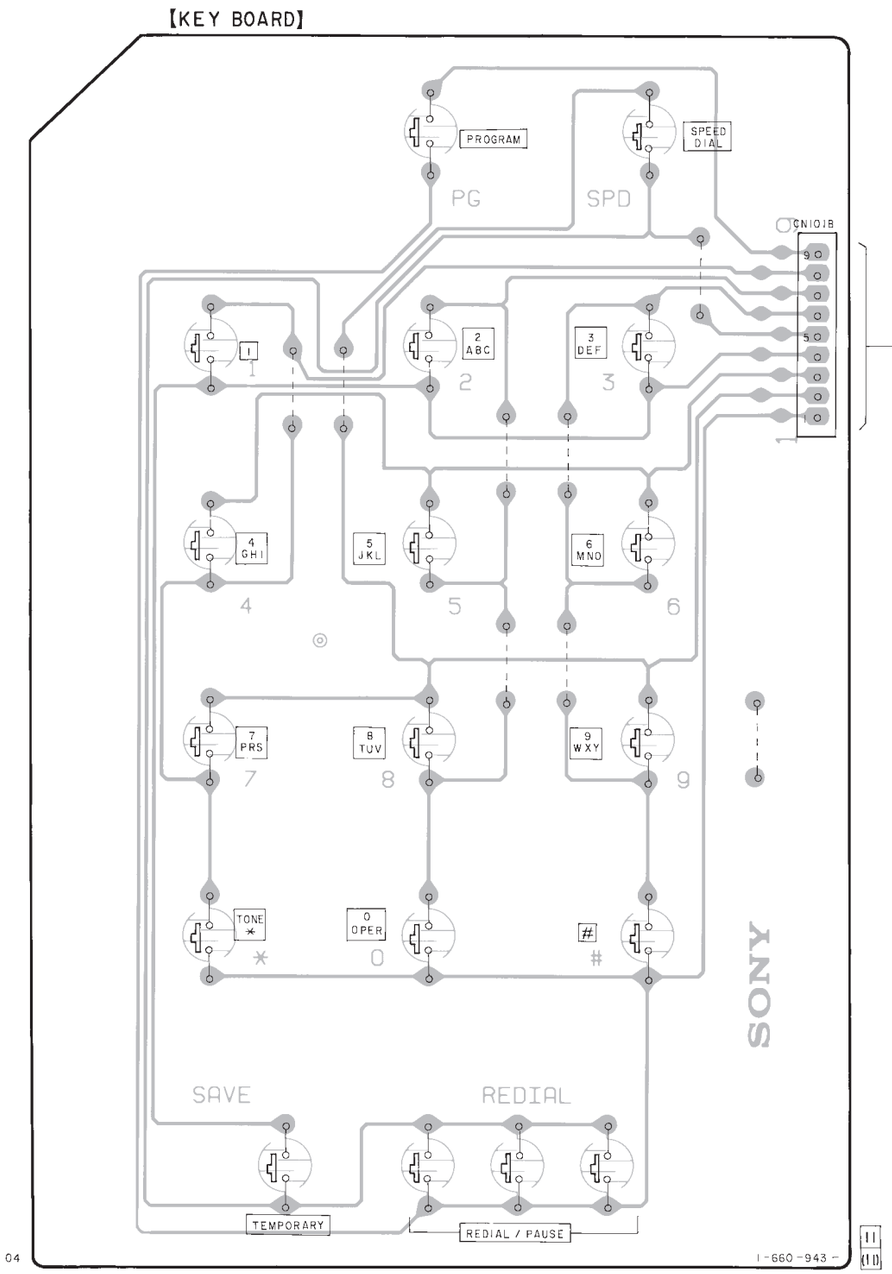


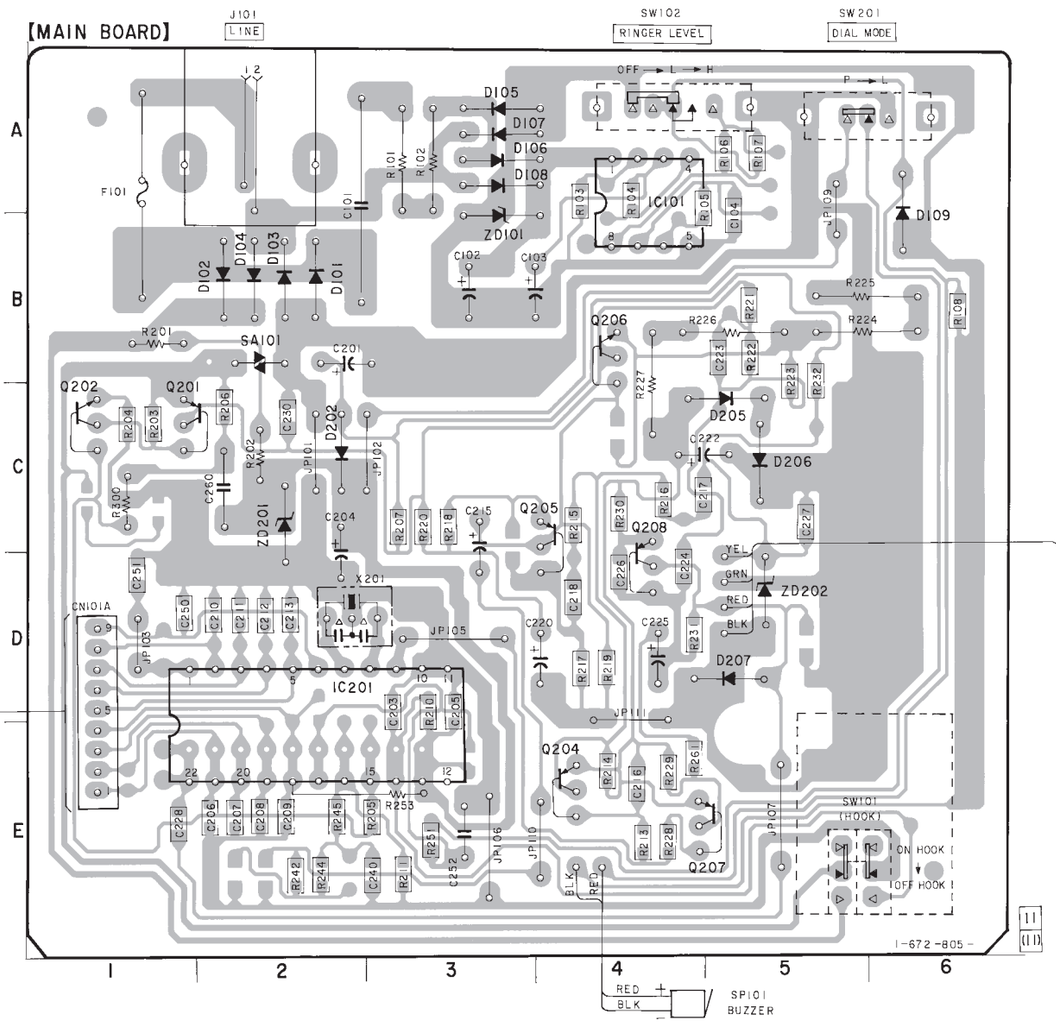
SECTION 3
DIAGRAMS

3-1. PRINTED WIRING BOARDS

- **Semiconductor Location**

Ref. No.	Location
D101	B-2
D102	B-2
D103	B-2
D104	B-2
D105	A-3
D106	A-3
D107	A-3
D108	A-3
D109	B-6
D202	C-2
D205	C-5
D206	C-5
D207	D-5
IC101	A-4
IC201	D-2
Q201	C-1
Q202	C-1
Q204	E-4
Q205	C-4
Q206	B-4
Q207	E-4
Q208	C-4
ZD101	B-3
ZD201	C-2
ZD202	D-5

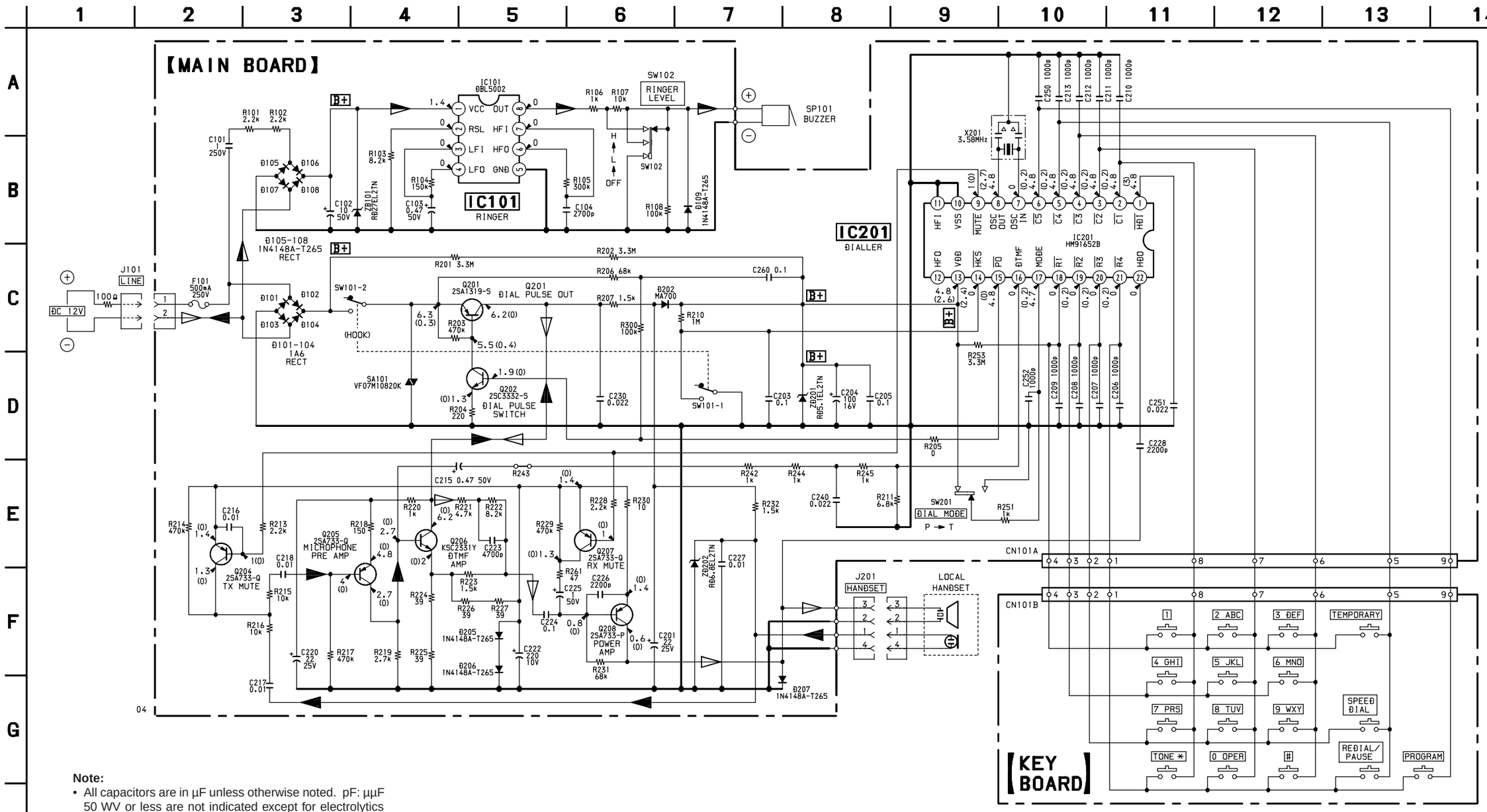




Note:

- ○——— : parts extracted from the component side.
- ○- - -○ : Carbon pattern.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

3-2. SCHEMATIC DIAGRAM • Refer to page 6 for IC Block Diagrams.

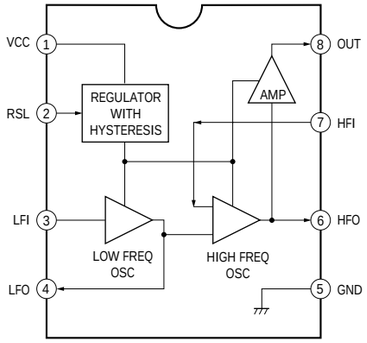


Note:

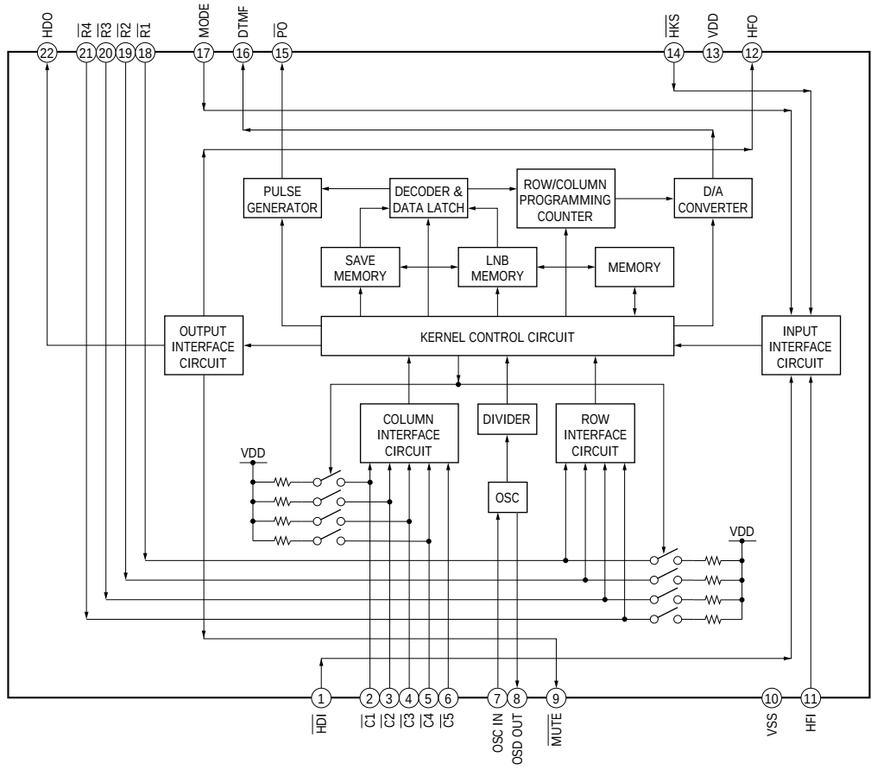
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 12V and fed with regulated dc power supply from J101 with 100 Ω in series.
- Voltage is dc with respect to ground under no-signal condition.
  no mark : OFF HOOK
  ( ) : ON HOOK
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ▷ : RX (from TEL LINE)
  ▶ : TX (to TEL LINE)
  ▻ : bell

• IC Block Diagrams

IC101 DBL5002

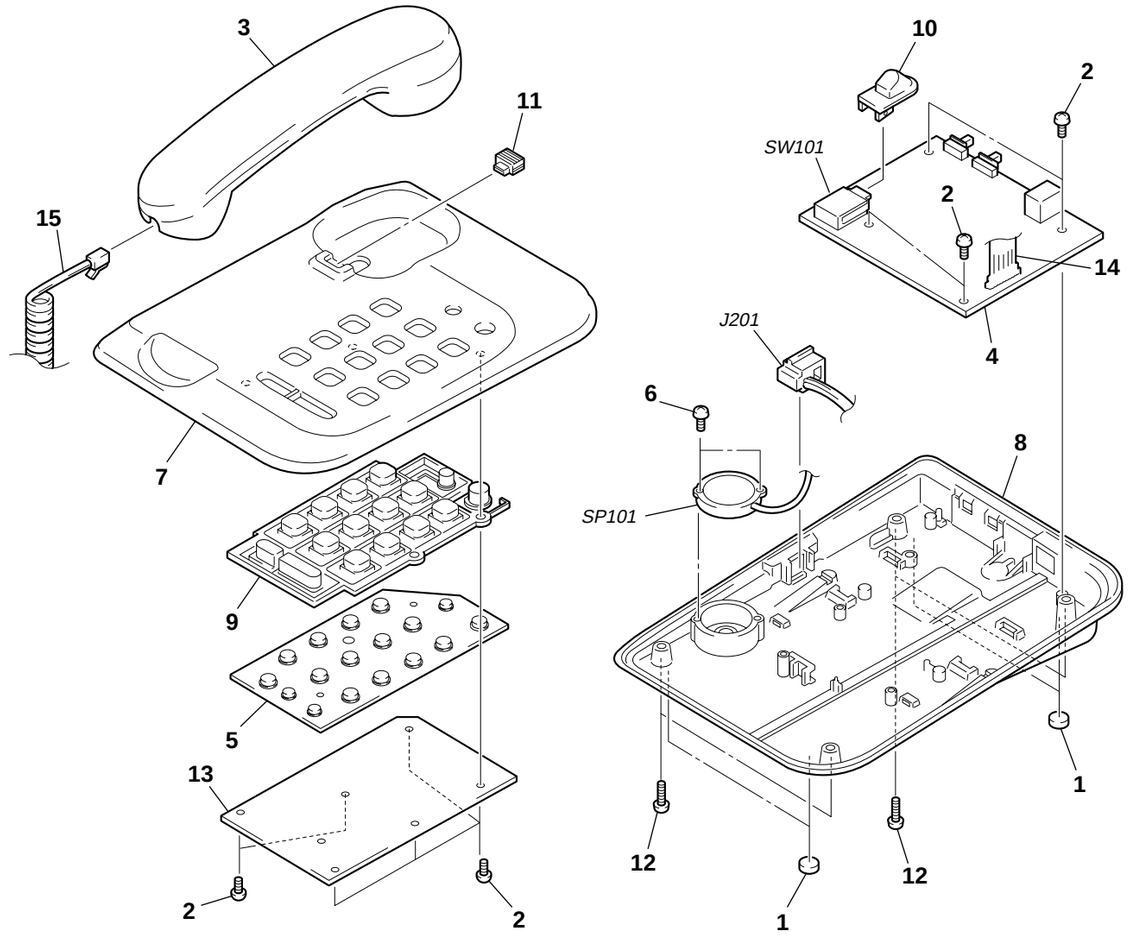


IC201 HM91652B



SECTION 4
EXPLODED VIEW

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials are given in the last of this parts list.



Ref. No.	Part No.	Description	Remark
1	3-925-103-01	FOOT, RUBBER	
2	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
3	X-3371-275-1	HANDSET ASSY, LOCAL	
* 4	A-3672-801-A	MAIN BOARD, COMPLETE	
5	1-762-340-11	SWITCH, RUBBER KEY	
6	4-908-618-21	SCREW (+BTP) (2X6)	
7	3-925-097-01	CABINET (UPPER)	
8	3-925-098-01	CABINET (LOWER)	
9	3-925-099-01	BUTTON (12 KEY)	

Ref. No.	Part No.	Description	Remark
10	3-925-100-01	LEVER (HOOK)	
11	3-925-101-01	HANGER (HANDSET)	
12	7-685-547-11	SCREW +BTP 3X10 TYPE2 N-S	
* 13	1-660-943-11	KEY BOARD	
14	1-769-626-11	WIRE (FLAT TYPE) (9 CORE)	
15	1-696-455-11	CORD, CURL	
J201	1-770-504-11	JACK, MODULAR (4C) 4P (HANDSET)	
SP101	1-529-116-11	BUZZER, PIEZOELECTRIC	
SW101	1-692-494-11	SWITCH, HOOK (HOOK)	

SECTION 5
ELECTRICAL PARTS LIST

KEY MAIN

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	1-660-943-11	KEY BOARD			
		**********			
		< CONNECTOR >			
* CN101B	1-569-704-11	HOLDER, CABLE (PC BOARD) 9P			
**********					
*	A-3672-801-A	MAIN BOARD, COMPLETE			
		**********			
	1-769-626-11	WIRE (FLAT TYPE) (9 CORE)			
		< CAPACITOR >			
C101	1-137-479-11	FILM	1uF	5%	400V
C102	1-126-964-11	ELECT	10uF	20%	50V
C103	1-126-959-11	ELECT	0.47uF	20%	50V
C104	1-163-215-00	CERAMIC CHIP	0.0027uF	10%	50V
C201	1-128-551-11	ELECT	22uF	20%	25V
C203	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C204	1-126-933-11	ELECT	100uF	20%	16V
C205	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C206	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C207	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C208	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C209	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C210	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C211	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C212	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C213	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C215	1-126-959-11	ELECT	0.47uF	20%	50V
C216	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C217	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C218	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C220	1-126-796-11	ELECT	22uF	20%	25V
C222	1-126-176-11	ELECT	220uF	20%	10V
C223	1-163-055-00	CERAMIC CHIP	0.0047uF	10%	50V
C224	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C225	1-115-871-11	ELECT	1uF	20%	50V
C226	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V
C227	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C228	1-163-213-00	CERAMIC CHIP	0.0022uF	5%	50V
C230	1-163-063-00	CERAMIC CHIP	0.022uF		50V
C240	1-163-063-00	CERAMIC CHIP	0.022uF		50V
C250	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C251	1-163-063-00	CERAMIC CHIP	0.022uF		50V

Ref. No.	Part No.	Description			Remark
C252	1-161-039-00	CERAMIC	0.001uF	10%	50V
C260	1-164-159-21	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN101A	1-569-704-11	HOLDER, CABLE (PC BOARD) 9P			
		< DIODE >			
D101	8-719-059-25	DIODE 1A6			
D102	8-719-059-25	DIODE 1A6			
D103	8-719-059-25	DIODE 1A6			
D104	8-719-059-25	DIODE 1A6			
D105	8-719-989-91	DIODE 1N4148A-T265			
D106	8-719-989-91	DIODE 1N4148A-T265			
D107	8-719-989-91	DIODE 1N4148A-T265			
D108	8-719-989-91	DIODE 1N4148A-T265			
D109	8-719-989-91	DIODE 1N4148A-T265			
D202	1-808-100-11	DIODE MA700			
D205	8-719-989-91	DIODE 1N4148A-T265			
D206	8-719-989-91	DIODE 1N4148A-T265			
D207	8-719-989-91	DIODE 1N4148A-T265			
		< FUSE >			
F101	1-533-713-11	FUSE (500mA/250V)			
		< IC >			
IC101	8-759-595-76	IC DBL5002			
IC201	8-759-582-35	IC HM91652B			
		< JACK >			
J101	1-766-250-21	JACK, MODULAR (2C) 6P (LINE)			
		< TRANSISTOR >			
Q201	8-729-804-21	TRANSISTOR 2SA1319TP-S			
Q202	8-729-803-98	TRANSISTOR 2SC3332TP-S			
Q204	8-729-173-38	TRANSISTOR 2SA733TP-Q			
Q205	8-729-173-38	TRANSISTOR 2SA733TP-Q			
Q206	8-729-025-58	TRANSISTOR KSC2331Y			
Q207	8-729-173-38	TRANSISTOR 2SA733TP-Q			
Q208	8-729-119-76	TRANSISTOR 2SA733TP-P			
		< RESISTOR >			
R101	1-249-421-11	CARBON	2.2K	5%	1/4W
R102	1-249-421-11	CARBON	2.2K	5%	1/4W

MAIN

Ref. No.	Part No.	Description			Remark
R103	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R104	1-216-101-00	METAL CHIP	150K	5%	1/10W
R105	1-218-763-11	RES,CHIP	300K	5%	1/10W
R106	1-216-049-11	RES,CHIP	1K	5%	1/10W
R107	1-216-073-00	METAL CHIP	10K	5%	1/10W
R108	1-216-097-00	RES,CHIP	100K	5%	1/10W
R201	1-259-882-11	CARBON	3.3M	5%	1/4W
R202	1-259-882-11	CARBON	3.3M	5%	1/4W
R203	1-216-113-00	METAL CHIP	470K	5%	1/10W
R204	1-216-033-00	METAL CHIP	220	5%	1/10W
R205	1-216-295-00	SHORT	0		
R206	1-216-093-00	RES,CHIP	68K	5%	1/10W
R207	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R210	1-216-121-00	RES,CHIP	1M	5%	1/10W
R211	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R213	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R214	1-216-113-00	METAL CHIP	470K	5%	1/10W
R215	1-216-073-00	METAL CHIP	10K	5%	1/10W
R216	1-216-073-00	METAL CHIP	10K	5%	1/10W
R217	1-216-113-00	METAL CHIP	470K	5%	1/10W
R218	1-216-029-00	METAL CHIP	150	5%	1/10W
R219	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R220	1-216-049-11	RES,CHIP	1K	5%	1/10W
R221	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R222	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R223	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R224	1-249-400-11	CARBON	39	5%	1/4W
R225	1-249-400-11	CARBON	39	5%	1/4W
R226	1-249-400-11	CARBON	39	5%	1/4W
R227	1-249-400-11	CARBON	39	5%	1/4W
R228	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R229	1-216-113-00	METAL CHIP	470K	5%	1/10W
R230	1-216-001-00	METAL CHIP	10	5%	1/10W
R231	1-216-093-00	RES,CHIP	68K	5%	1/10W
R232	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R242	1-216-049-11	RES,CHIP	1K	5%	1/10W
R244	1-216-049-11	RES,CHIP	1K	5%	1/10W
R245	1-216-049-11	RES,CHIP	1K	5%	1/10W
R251	1-216-198-00	RES,CHIP	1K	5%	1/8W
R253	1-259-882-11	CARBON	3.3M	5%	1/4W
R261	1-216-017-00	RES,CHIP	47	5%	1/10W
R300	1-249-441-11	CARBON	100K	5%	1/4W
		< VARISTOR >			
SA101	1-801-271-11	VARISTOR (VF07M10820K)			
		< SWITCH >			
SW101	1-692-494-11	SWITCH, HOOK (HOOK)			
SW102	1-692-207-21	SWITCH, SLIDE (RINGER LEVEL)			
SW201	1-572-903-51	SWITCH, SLIDE (DIAL MODE)			

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X201	1-579-673-11	VIBRATOR, CERAMIC (3.58MHz)	
		< DIODE >	
ZD101	8-719-155-07	DIODE RD27EL2TN	
ZD201	8-719-101-50	DIODE RD5.1EL2TN	
ZD202	8-719-154-61	DIODE RD6.8EL2TN	

****

MISCELLANEOUS
****

5	1-762-340-11	SWITCH, RUBBER KEY	
15	1-696-455-11	CORD, CURL	
J201	1-770-504-11	JACK, MODULAR (4C) 4P (HANDSET)	
SP101	1-529-116-11	BUZZER, PIEZOELECTRIC	

****

ACCESSORIES & PACKING MATERIALS
****

	1-696-453-11	CORD (WITH MODULAR PLUG) (LINE) (215cm)
	1-696-454-11	CORD (WITH MODULAR PLUG) (LINE) (15cm)
	3-378-839-01	LABEL (SCALE CARD)
	3-798-915-14	MANUAL, INSTRUCTION (ENGLISH)
	3-798-915-24	MANUAL, INSTRUCTION (SPANISH)
	X-3370-607-1	CASE ASSY, WALL HOOK

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